

CLAIMS

What is claimed is:

1. A composition comprising a plurality of polynucleotides whose expression is modulated by cytokines, wherein the polynucleotides comprise SEQ ID NOs: 1-516 or a complement thereof.

2. A substantially purified polynucleotide whose expression is modulated by cytokines comprising at least a fragment of a gene selected from SEQ ID NOs: 1-243 or a complement thereof.

3. The polynucleotide of claim 2 whose expression is modulated by pro-inflammatory and anti-inflammatory cytokines, wherein the polynucleotide is selected from SEQ ID NOs: 1-172 or a complement thereof.

4. The polynucleotide of claim 2 whose expression is modulated by pro-inflammatory cytokines, wherein the polynucleotide is selected from SEQ ID NOs: 173-218 or a complement thereof.

5. The polynucleotide of claim 2 whose expression is modulated by anti-inflammatory cytokines, wherein the polynucleotide is selected from SEQ ID NOs: 219-243 or a complement thereof.

6. The composition of claim 1, wherein the polynucleotides are immobilized on a substrate.

7. A high throughput method for detecting a polynucleotide in a sample, the method comprising:

(a) hybridizing the composition of claim 1 with the sample, thereby forming hybridization complex; and

(b) detecting the hybridization complex, wherein the presence of the hybridization complex indicates the presence of the polynucleotide in the sample.

8. A high throughput method of screening a library of molecules or compounds to identify a ligand, the method comprising:

(a) combining the composition of claim 1 with a library of molecules or compounds under conditions to allow specific binding; and

(b) detecting specific binding, thereby identifying a ligand.

9. The method of claim 8 wherein the library is selected from DNA molecules, RNA molecules, peptide nucleic acids, mimetics, peptides, and proteins.

10. A method of purifying ligands, the method comprising:

a) combining the polynucleotide of claim 2 with a sample under conditions which allow specific binding;

b) recovering the bound polynucleotide, and

c) separating the polynucleotide from the ligand, thereby obtaining purified ligand.

11. An expression vector containing the polynucleotide of claim 2.

12. A host cell containing the expression vector of claim 11.

13. A method for producing a protein, the method comprising the steps of:

- (a) culturing the host cell of claim 11 under conditions for the expression of protein; and
- (b) recovering the protein from the host cell culture.

14. A protein or a portion thereof produced by the method of claim 13.

15. A method for screening a library of molecules or compounds to identify at least one ligand which specifically binds a protein, the method comprising:

(a) combining the protein or a portion thereof of claim 14 with the library of molecules or compounds under conditions to allow specific binding; and

(b) detecting specific binding, thereby identifying a ligand which specifically binds the protein.

16. The method of claim 15 wherein the library is selected from DNA molecules, RNA molecules, PNAs, mimetics, peptides, proteins, agonists, antagonists, antibodies or their fragments, immunoglobulins, inhibitors, drug compounds, and pharmaceutical agents.

17. A method of purifying a ligand, the method comprising:

a) combining the protein or a portion thereof of claim 14 with a sample under conditions to allow specific binding;

b) recovering the bound protein; and

c) separating the protein from the ligand, thereby obtaining purified ligand.

18. A method of screening a sample from a patient for an immune response, disorder, condition, or disease, the method comprising:

a) contacting the sample with the composition of claim 1 immobilized on a substrate under conditions to allow formation of a hybridization complex;

b) detecting and quantifying complex formation; and

c) comparing complex formation with a standard, wherein a change complex formation indicates the presence of the immune disorder, condition, or disease.

19. The method of claim 18, wherein the immune disorder, condition, or disease is a pro-inflammatory disorder selected from viral infections, rheumatoid arthritis, insulin-dependent diabetes mellitus, multiple sclerosis, encephalomyelitis, inflammatory bowel disease, psoriasis, and pemphigus vulgaris.

20. The method of claim 18, wherein the immune system disorder, condition, or disease is an anti-inflammatory disorder selected from bacterial and parasitic infections, allergies and other atopic disorders, chronic graft versus host disease, scleroderma, and systemic lupus erythematosus.